

WHAT IS CLAIMED IS:

1. A holographic optical element comprising:
a pair of board-shaped transparent members
arranged with a distance facing with each other;
5 transparent electrodes formed on the respective
transparent members and facing with each other;
a liquid crystal an orientation of which is
changeable; and
a liquid crystal an orientation of which is fixed;
10 the orientation changeable liquid crystal and the
orientation-fixed liquid crystal being arranged
alternately with a striped shape between the
transparent members on which the transparent electrodes
are formed facing with each other.

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2. The holographic optical element according to
claim 1, wherein the orientation-fixed liquid crystal
is an ultraviolet-setting liquid crystal.

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3. The holographic optical element according to
claim 2, wherein the holographic optical element
diffracts light upon applying no-voltage since the
orientation of the liquid crystal and the orientation
of the orientation-fixed liquid crystal are different
25 upon applying no-voltage, and upon applying voltage,
the orientation of the liquid crystal varies so that
the orientation of the liquid crystal and the

orientation of the orientation-fixed liquid crystal become the same.

5 4. The holographic optical element according to claim 2, wherein the holographic optical element diffracts light upon applying voltage since the orientation of the liquid crystal and the orientation of the orientation-fixed liquid crystal are different upon applying voltage, and upon applying no-voltage,
10 the orientation of the liquid crystal varies so that the orientation of the liquid crystal and the orientation of the orientation-fixed liquid crystal become the same.

15 5. A viewfinder display of a camera displaying given information together with an object image with superimposed manner, the viewfinder display using the holographic optical element according to any one of claim 1 through 4.

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6. The viewfinder display of a camera according to claim 5, wherein the transparent electrodes are arranged on the transparent members such that the transparent electrodes form a figure shape and a letter
25 shape, and the figure and the letter are displayed as the given information.

7. The viewfinder display of a camera according to claim 5, wherein the transparent electrodes are arranged on the transparent members such that the given information is displayed as a dot-matrix.

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8. A viewfinder display of a camera displaying given information together with an object image with superimposed manner, the viewfinder display using in combination with a plurality of holographic optical elements according to any one of claim 1 through 4.

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9. A camera arranging the viewfinder display of a camera according to claim 5 in the vicinity of a screen.

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10. A camera arranging the viewfinder display of a camera according to claim 8 in the vicinity of a screen.